

## ABSTRACT

A HF matching device 14 and a LF matching device 17 are separately structured, the HF matching device 14 being configured such that it is disposed at a center portion on a lower side of a bottom electrode 2 so as to be positioned in a space 13 provided on the lower side of the bottom electrode 2 and an output side thereof is electrically connected to the bottom electrode 2 via a non-coaxially structured feeding rod 19 (not via a coaxially-structured feeding rod). A radio-frequency power from a second radio-frequency power source 18 is supplied from an outer peripheral portion of the bottom electrode 2 via the LF matching device 17 and a LPF 16. This configuration makes it possible to suppress the increase in power loss even when a radio-frequency power with a high frequency is used and to facilitate matching without using any special matching element.